

REMARKS

Claims 1-66 are pending in the application.

Claims 1-66 have been rejected.

Claims 1, 17, 18, 35, 46 and 54 have been amended.

Unless otherwise specified in the below discussion, Applicants have amended the above-referenced claims in order to provide clarity or to correct informalities in the claims. Applicants further submit that, unless discussed below, these amendments are not intended to narrow the scope of the claims. By these amendments, Applicants do not concede that the cited art is prior to any invention now or previously claimed. Applicants further reserve the right to pursue the original versions of the claims in the future, for example, in a continuing application.

Rejection of Claims Under 35 U.S.C. § 101

Claims 17 and 54-66 stand rejected under 35 U.S.C. §101 because the claimed invention is purportedly directed to non-statutory subject matter. Specifically, the Office Action objects to including a signal within the definition of computer-readable medium a signal. *See* Office Action, p.2. Applicants have amended Claims 17 and 54 to remove the phrase “a communications medium conveying signals and coding the instructions” from the definition of computer-readable medium. Applicants respectfully submit that these amendments are responsive to the rejection in the Office Action and that Claims 17 and 54-66 are now allowable as claimed. Applicants therefore respectfully request the Examiner’s reconsideration and withdrawal of the rejections as to these claims and an indication of the allowability of same.

Applicants submit, however, that by the above-mentioned amendments to Claims 17 and 54, Applicants do not concede that a “signal” is actually non-statutory subject matter. Applicants respectfully submit that the position taken by the Office Action is inconsistent with current case law promulgated by the Court of Appeals for the Federal Circuit. *See, e.g., State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998) (“The question of whether a claim encompasses statutory subject matter should not focus on which of the four categories of subject matter a claim is directed to - - process, machine, manufacture, or composition of matter - - but rather on the essential characteristics of the subject matter, in particular, its practical utility.”). Applicants respectfully submit that the practical utility of a signal that includes functional descriptive material is to create the same functional interrelationship within a computer that similar signals embodied in, for example, a CD-ROM would create. Furthermore, signals that create a functional interrelationship in a computer are well within the Supreme Court’s stated scope of 35 U.S.C. §101, which is extended to “anything under the Sun that is made by man.” *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980). Applicants submit that signals designed to create a functional interrelationship within a computer are clearly man-made and are therefore statutory.

Rejection of Claims Under 35 U.S.C. § 102

Claims 1-66 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Publication No. 2003/0163593 naming Knightly as inventors (“Knightly”). Applicants respectfully traverse these rejections.

Claims 1, 46 and 54: Independent Claims 1, 46 and 54, as amended, each contain limitations of the following form:

- receiving information indicating a need to change an amount of data being transmitted through a first media access control (MAC) device to a client of the first MAC device;
- receiving information indicating a need to change an amount of data being transmitted through a first media access control (MAC) device to a client of the first MAC device;
- forming a message including an indication to a second MAC device to change a rate at which the second MAC device transmits data, wherein said forming the message uses the information indicating the need to change the amount of data being transmitted to the client; and
- transmitting the message to the second MAC device over a network.

See, e.g., Claim 1 (amended). Applicants respectfully submit that the cited sections of Knightly fail to provide disclosure of one or more of these claim limitations.

The section of Knightly cited by the Office Action as disclosing the above limitations specifically relates to background information on IEEE 802.17 RPR. *See Knightly*, ¶[0042]. Specifically, the cited section relates to a description of Resilient Packet Ring (RPR) node architecture, as illustrated in Knightly, Figure 3. The cited section of Knightly (*see Office Action*, p.3.), provides the following description related to inputs to a fairness algorithm implemented by RPR nodes for setting bandwidths available to RPR nodes on an RPR network:

Next, RPR nodes have measurement modules (byte counters) to measure demanded and/or serviced station and transit traffic. These measurements are used by the fairness algorithm to compute a feedback control signal to throttle upstream nodes to the desired rates. Nodes that receive a control message use the information in the message, perhaps together with local information, to set the bandwidths for the rate controllers 304 (see Fig. 3).

Knightly, ¶[0047].

The Office Action cites the above-quoted section against all the limitations of independent Claims 1, 46 and 54. Applicants respectfully submit that the cited section provides no disclosure, either explicit or implicit, of an RPR node capable of receiving

information indicating a need to change an amount of data being transmitted through a first MAC device to a client of the first MAC device, as claimed. As an initial matter, Knightly Figure 3, to which the cited section refers, provides no illustration of a MAC client and no indication of information being received to change an amount of data being transmitted to a MAC client. For example, Knightly's traffic monitor (308) is configured to only receive signals from "the rate controllers 304, the transit buffers 312, and the scheduler 310 before providing any output to the fair bandwidth allocator 306." Knightly, ¶[0046]. Further, the "measurement modules" disclosed in the above-quoted section, have no explicit or implicit relation to a client of a MAC device, nor are those "measurement modules" disclosed to indicate a need to change an amount of data being transmitted through a first MAC device to a client of the first MAC device.

Applicants further submit that the cited section fails to provide disclosure of the "forming a message" limitation. The above-quoted section provides that the "measurement modules (byte counters)" provide measurements "used by the fairness algorithm to compute a feedback control signal to throttle upstream nodes to the desired rates." Knightly, ¶[0047]. Because the above-quoted section provides no disclosure of the receiving of "information indicating a need to change an amount of data being transmitted to the client," as discussed above, the cited section cannot provide for the claimed "forming a message" wherein the forming the message uses the received information.

Applicants further respectfully submit that the present Application indicates that the inability to take into account MAC client bandwidth is a shortcoming of the RPR node architecture standard. In the Application's description related to the fairness algorithm, it states "the algorithms specified [in the standard] assume that a client

associated with a particular station, e.g., MAC client 170, can accept data at ring rate. If this is not the case, packets may get dropped before they get to packet processor 175 and/or the main buffers of the client where more intelligent dropping algorithms, e.g., the random early drop (RED) algorithm, can be used.” See Application, ¶[0011]. The application further states that “it is desirable to have mechanisms by which data flow to ring station MAC clients can be controlled.” Application, ¶[0012]. Independent Claims 1, 46 and 54 provide this desired mechanism by using information received from an MAC client to form a message to change a rate at which a second MAC device transmits data. Such client-driven data rate changes are not contemplated by the standard and are not, therefore, disclosed in the section of Knightly related to the standard.

For at least these reasons, Applicants submit that independent Claims 1, 46 and 54, as amended, and all claims depending therefrom (Claims 2-17, 47-53, and 55-63) are in condition for allowance. Applicants therefore respectfully request the Examiner’s reconsideration and withdrawal of the rejections as to these claims and an indication of the allowability of same.

Independent Claims 18 and 35: Independent Claim 18, as amended, provides limitations of the following form:

- a first media access control (MAC) device operable to be coupled to a network, the first MAC device including control logic configured to prepare a message for transmission on the network including an indication to change a rate at which another MAC device transmits data; and
- a MAC client coupled to the first MAC device and including a buffer for storing data transmitted to the MAC client and buffer control circuitry configured to provide information about an amount of data stored in the buffer, wherein the control logic uses an indication of an amount of data stored in the buffer to prepare the message.

Claim 18 (amended). Independent Claim 35 also contains limitations related to control logic and buffer control circuitry that are substantially similar to those presented in the limitations for independent Claim 18. Therefore, discussion related to those limitations are combined herein. Applicants respectfully submit that the cited sections of Knightly fail to provide disclosure of these limitations.

Both Claims 18 and 35 provide that the “buffer control circuitry” provides information about an amount of data stored in a buffer “for storing data transmitted to the MAC client.” Applicants respectfully submit that the cited section of Knightly fails to provide any disclosure of a buffer for storing data transmitted to a MAC client. In fact, the cited section of Knightly relates only to data being transmitted from Knightly’s RPR node. *See* Knightly, ¶[0048]. As illustrated in Knightly Figure 3, Knightly’s “scheduler” (310) arbitrates transit out traffic between the station transmit buffers and the transit buffers on the node. *See also* Knightly, ¶[0048], ll. 1-2. The cited section relates to how the scheduler services the traffic from both the station transmit buffers (314) and the transit buffers (312). The cited section provides that the disclosed scheduler purportedly services guaranteed transit traffic first (class A) from a primary transit queue (PTQ) and then if that PTQ is empty employing round-robin service among transit traffic in a secondary transit queue (STQ) and the outgoing station traffic up to a buffer threshold for the STQ. Above the STQ buffer threshold, STQ traffic is selected over station traffic.

Thus, the cited section of Knightly fails to provide any disclosure of a buffer for storing data transmitted to a MAC client. Further, there is no indication of buffer control circuitry in ¶[0048] that provides information about the amount of data being stored in the buffer to the control logic that prepares a message for transmission on the network to change a rate at which another MAC device transmits data, as provided in the amended

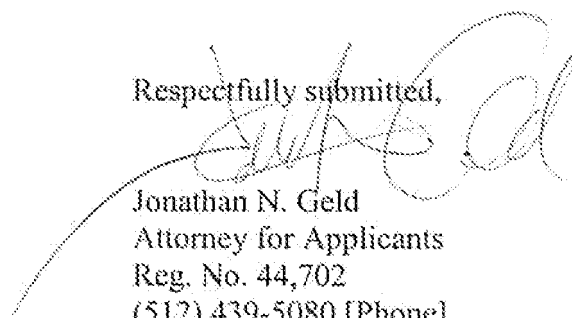
claim language. As discussed above, the present application specifically addresses shortcomings of the RPR standard in the standards failing to address client-related bandwidth issues in a fairness calculation.

For at least these reasons, and those discussed above with regard to Claims 1, 46 and 54, Applicants submit that independent Claims 18 and 35, as amended, and all claims depending therefrom (Claims 19-34 and 36-45) are in condition for allowance. Applicants therefore respectfully request the Examiner's reconsideration and withdrawal of the rejections as to these claims and an indication of the allowability of same.

CONCLUSION

In view of the amendments and remarks set forth herein, the application and the claims therein are believed to be in condition for allowance without any further examination and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned at 512-439-5090.

Respectfully submitted,



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